DICOM Conformance Statement

Application Annex:

CT Applications on Philips IntelliSpace Portal V8.0

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1. Introduction

This DICOM Conformance Statement annex is applicable to the CT Applications on Philips IntelliSpace Portal V8.0 hosting platform, later referred to as CT Applications. In general the CT Applications are the user environment for viewing and analyzing CT images.

The following analysis packages are offered by CT Applications (licensing might be applicable):

- CT Viewer
- Advanced Vessel Analysis (AVA)
- Brain perfusion (BP)
- Comprehensive Cardiac Analysis (CCA)
- Cardiac Viewer (CV)
- Lung Nodule Assessment (LNA)
- Virtual Colonoscopy (VC)
- Calcium Scoring (CS)
- Functional CT (FCT)
- Lung Density (LD)
- CTDMP
- CT EPP
- CT Liver
- CT BMA
- CT Dental Planning
- Spectral Analysis (Spectral)
- Transcatheter Aortic-Valve Implantation (TAVI)
- Trauma
- COPD

1.1. Revision History

The revision history below provides dates and differences among individual document versions.

Table 1: Revision History

Document Version	Date of Issue	Status	Description
00	25-March-2016	Authorized	Final version.

1.2. Terminology

DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
UID	Unique Identifier
VR	Value Representation

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2. Data Specifications

2.1. Supported IOD's

This section specifies each IOD accepted and / or created by CT Applications.

ACCEPTED The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in CT Applications for viewing and analysis.

CREATED The CT Applications supports generation of derived data by using the applicable IOD and is able to store this data in the repository of the hosting platform.

Table 2: Supported IOD's

IOD		Support	
Name	**UID**	**ACCEPTED**	**CREATED**
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	Yes
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Yes	Yes
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	No	Yes
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Yes	No
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Yes	No
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Yes	Yes

Note:

1) *Only the CT Viewer supports acceptance of the CT, SC, MR, NM and PET Image Storage SOP Classes.*
2) *Only the Comprehensive Cardiac Analysis (CCA) and Cardiac Viewer (CV) packages are able to fuse CT & PET/NM Data, but no creation.*
3) *All the CT applications are compliant with data from other vendors for import and display (multi-vendor compliant)*

2.1.1. Acceptance Criteria

This section specifies the acceptance criteria applied by CT Applications to which a dataset should adhere before it can be imported into the application. This can be criteria on the highest level (e.g. data from a certain manufacturer or system model) or certain DICOM attributes mandatory to be present into the dataset holding a specific value. In case one or more Philips private attributes are required, then a list of supported Philips system models will be mentioned.

Table 3: Accepted system models

Manufacturer	Modality	System Model Name(s)
Not applicable	Not applicable	Not applicable

Table 4: Accepted transfer syntaxes per IOD

IOD		Transfer Syntax	
Name	**UID**	**Name**	**UID**
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70

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MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Key Object Selection Document SOP Class	1.2.840.10008.5.1.4.1.1.88.59	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2

Table 5: Accepted attribute values

Attribute Name	Attribute Number	Values / Comments
Not applicable	Not applicable	Not applicable

2.1.2. Contents of Created IOD's

This section specifies in detail the attribute contents of created data objects. Attributes are grouped together by its corresponding module as specified by DICOM standard. Philips private attributes are excluded for specification.

Abbreviations used in the Module table for the column "Presence of Value" are:

ALWAYS	The attribute is always present with a value
EMPTY	The attribute is always present without any value (attribute sent zero length)
VNAP	The attribute is always present and its Value is Not Always Present (attribute sent zero length if no value is present)
ANAP	The attribute is present under specified condition – if present then it will always have a value

The abbreviations used in the Module table for the column "Source" are:

AUTO	The attribute value is generated automatically
CONFIG	The attribute value source is a configurable parameter
COPY	The attribute value source is another SOP instance
FIXED	The attribute value is hard-coded in the application
IMPLICIT	The attribute value source is a user-implicit setting
MPPS	The attribute value is the same as that use for Modality Performed Procedure Step
MWL	The attribute value source is a Modality Worklist
USER	The attribute value source is explicit user input

2.1.2.1. CT Image Storage SOP Class

Table 6: IOD of Created CT Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS

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Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	CT Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
	Extended Dicom and Private attributes	CONDITIONAL - IF PRESENT IN THE SOURCE DATA

Table 7: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY, USER	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY, USER	-
Patient's Sex	0010,0040	CS		VNAP	COPY, USER	-
Other Patient IDs	0010,1000	LO		ANAP	COPY, USER	-
Other Patient Names	0010,1001	PN		ANAP	COPY, USER	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY, USER	-

Table 8: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY, USER	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY, USER	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY, USER	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 9: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-

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Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY, USER	-
Patient's Size	0010,1020	DS		ANAP	COPY, USER	-
Patient's Weight	0010,1030	DS		ANAP	COPY, USER	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 10: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY, USER	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US /SS		ANAP	COPY	-
Largest Pixel Value in Series	0028,0109	US /SS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 11: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	COPY	-
Position Reference Indicator	0020,1040	LO		VNAP	COPY	-

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Table 12: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips Medical Systems	VNAP	COPY	Philips Medical Systems
Institution Name	0008,0080	LO		ANAP	COPY, USER	-
Institution Address	0008,0081	ST		ANAP	COPY, USER	-
Station Name	0008,1010	SH		ANAP	COPY	-
Institutional Department Name	0008,1040	LO		ANAP	COPY	-
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	8.0	ANAP	COPY	8.0
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/ SS		ANAP	COPY	-

Table 13: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Image Type	0008,0008	CS		ANAP		
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		ANAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ANAP	COPY	-
>Photometric Interpretation	0028,0004	CS		ANAP	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ANAP	COPY	-
>Columns	0028,0011	US		ANAP	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ANAP	COPY	-
>Bits Stored	0028,0101	US		ANAP	COPY	-

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>High Bit	0028,0102	US		ANAP	COPY	-
>Pixel Representation	0028,0103	US		ANAP	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 14: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	COPY	-
Image Position (Patient)	0020,0032	DS		ALWAYS	COPY	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	COPY	-
Slice Location	0020,1041	DS		ANAP	COPY	-
Pixel Spacing	0028,0030	DS		ALWAYS	COPY	-

Table 15: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ANAP	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-

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Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-

Table 16: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-
Contrast/Bolus Agent Sequence	0018,0012	SQ		ANAP	COPY	-
Contrast/Bolus Administration Route Sequence	0018,0014	SQ		ANAP	COPY	-
>Additional Drug Sequence	0018,002A	SQ		ANAP	COPY	-
Contrast/Bolus Route	0018,1040	LO		ANAP	COPY	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	COPY	-
Contrast/Bolus Start Time	0018,1042	TM		ANAP	COPY	-
Contrast/Bolus Stop Time	0018,1043	TM		ANAP	COPY	-
Contrast/Bolus Total Dose	0018,1044	DS		ANAP	COPY	-
Contrast Flow Rate	0018,1046	DS		ANAP	COPY	-
Contrast Flow Duration	0018,1047	DS		ANAP	COPY	-
Contrast/Bolus Ingredient	0018,1048	CS		ANAP	COPY	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	COPY	-

Table 17: CT Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	-
Scan Options	0018,0022	CS		ANAP	AUTO	-
KVP	0018,0060	DS		VNAP	COPY	-
Data Collection Diameter	0018,0090	DS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Distance Source to Detector	0018,1110	DS		ANAP	COPY	-
Distance Source to Patient	0018,1111	DS		ANAP	COPY	-
Gantry/Detector Tilt	0018,1120	DS		ANAP	COPY	-
Table Height	0018,1130	DS		ANAP	COPY	-
Rotation Direction	0018,1140	CS		ANAP	COPY	-
Exposure Time	0018,1150	IS		ANAP	COPY	-
X-ray Tube Current	0018,1151	IS		ANAP	COPY	-
Exposure	0018,1152	IS		ANAP	COPY	-
Exposure in µAs	0018,1153	IS		ANAP	COPY	-
Filter Type	0018,1160	SH		ANAP	COPY	-
Generator Power	0018,1170	IS		ANAP	COPY	-
Focal Spot(s)	0018,1190	DS		ANAP	COPY	-
Convolution Kernel	0018,1210	SH		ANAP	COPY	-
Revolution Time	0018,9305	FD		ANAP	COPY	-
Single Collimation Width	0018,9306	FD		ANAP	COPY	-
Total Collimation Width	0018,9307	FD		ANAP	COPY	-
Table Speed	0018,9309	FD		ANAP	COPY	-
Table Feed per Rotation	0018,9310	FD		ANAP	COPY	-
Exposure Modulation Time	0018,9323	CS		ANAP	COPY	-
Estimated Dose Saving	0018,9324	FD		ANAP	COPY	-
CTDIvol	0018,9345	FD		ANAP	COPY	-

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Spiral Pitch Factor	0018,9311	FD		ANAP	COPY	-
Acquisition Number	0020,0012	IS		VNAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	-
Rescale Slope	0028,1053	DS		ALWAYS	COPY	-

Table 18: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ALWAYS	AUTO	-

Table 19: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	ALWAYS	-
Window Width	0028,1051	DS		ANAP	ALWAYS	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-

Table 20: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.2	ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Instance Number	0020,0013	IS		ANAP	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO	Philips Medical Systems	ALWAYS	FIXED	Philips Medical Systems
>Institution Address	0008,0081	ST	Philips Portal	ANAP	FIXED	Philips Portal

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>Station Name	0008,1010	SH	Philips Portal	ANAP	CONFIG	Philips Portal
>Institutional Department Name	0008,1040	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Software Version(s)	0018,1020	LO	8.0	ANAP	FIXED	8.0
>Device Serial Number	0018,1000	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Institution Name	0008,0080	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	109102
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	DCM
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment

Table 21: Extended DICOM and private attributes for CT Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Scan Arc	0018,1143	DS		ANAP	COPY	-
Conversion Type	0008,0064	CS		ANAP	COPY	-
Acquisition Type	0018,9302	CS		VNAP	COPY	-
Spacing Between Slices	0018,0088	DS		ANAP	COPY	-
Angular Position	0018,1141	DS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		VNAP	COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-
Units	0054,1001	CS		ANAP	COPY	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-

2.1.2.2. Secondary Capture Image Storage SOP Class

Table 22: IOD of Created Secondary Capture Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS

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Study	Patient Study Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	SC Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	Modality LUT Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	Extended Dicom and Private attributes	CONDITIONAL - IF PRESENT IN THE SOURCE DATA

Table 23: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		ANAP	COPY, USER	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY, USER	-
Patient's Sex	0010,0040	CS		VNAP	COPY, USER	-
Other Patient IDs	0010,1000	LO		ANAP	COPY, USER	-
Other Patient Names	0010,1001	PN		ANAP	COPY, USER	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY, USER	-

Table 24: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY, USER	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY, USER	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY, USER	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO	-

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Table 25: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY, USER	-
Patient's Size	0010,1020	DS		ANAP	COPY, USER	-
Patient's Weight	0010,1030	DS		ANAP	COPY, USER	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 26: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY, USER	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 27: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips Medical Systems	VNAP	COPY	Philips Medical Systems

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Institution Name	0008,0080	LO		ANAP	COPY, USER	-
Institution Address	0008,0081	ST		ANAP	COPY, USER	-
Station Name	0008,1010	SH		ANAP	COPY	-
Institutional Department Name	0008,1040	LO		ANAP	COPY	-
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	8.0	ANAP	COPY	8.0
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 28: SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS	CT	ANAP	AUTO	-
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	-
Secondary Capture Device ID	0018,1010	LO		ANAP	AUTO	-
Secondary Capture Device Manufacturer	0018,1016	LO	Philips Medical Systems	ANAP	AUTO	Philips Medical Systems
Secondary Capture Device Manufacturer's Model Name	0018,1018	LO	IntelliSpace Portal	ANAP	AUTO	IntelliSpace Portal
Secondary Capture Device Software Version(s)	0018,1019	LO	8.0	ANAP	AUTO	8.0
Video Image Format Acquired	0018,1022	SH		ANAP	AUTO	-
Digital Image Format Acquired	0018,1023	LO		ANAP	AUTO	-

Table 29: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-

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Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ANAP	COPY	-
>Photometric Interpretation	0028,0004	CS		ANAP	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ANAP	COPY	-
>Columns	0028,0011	US		ANAP	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ANAP	COPY	-
>Bits Stored	0028,0101	US		ANAP	COPY	-
>High Bit	0028,0102	US		ANAP	COPY	-
>Pixel Representation	0028,0103	US		ANAP	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 30: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	-
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Bits Allocated	0028,0100	US	16	ALWAYS	AUTO	-
Bits Stored	0028,0101	US	12	ALWAYS	AUTO	-
High Bit	0028,0102	US	11	ALWAYS	AUTO	-
Pixel Representation	0028,0103	US		ANAP	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-

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Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-

Table 31: SC Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Date of Secondary Capture	0018,1012	DA		ANAP	AUTO	-
Time of Secondary Capture	0018,1014	TM		ANAP	AUTO	-
Pixel Spacing	0028,0030	DS		ANAP	AUTO	-

Table 32: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ALWAYS	AUTO	-

Table 33: Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ANAP	AUTO	-
Rescale Slope	0028,1053	DS		ANAP	AUTO	-
Rescale Type	0028,1054	LO		ANAP	AUTO	-
Modality LUT Sequence	0028,3000	SQ		ANAP	AUTO	-
>LUT Descriptor	0028,3002	US/SS		ANAP	AUTO	-
>LUT Explanation	0028,3003	LO		ANAP	AUTO	-
>Modality LUT Type	0028,3004	LO		ANAP	AUTO	-
>LUT Data	0028,3006	US/OW		ANAP	AUTO	-

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Table 34: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-

Table 35: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO	Philips Medical Systems	ALWAYS	FIXED	Philips Medical Systems
>Institution Address	0008,0081	ST	Philips Portal	ANAP	FIXED	Philips Portal
>Station Name	0008,1010	SH	Philips Portal	ANAP	CONFIG	Philips Portal
>Institutional Department Name	0008,1040	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Software Version(s)	0018,1020	LO	8.0	ANAP	FIXED	8.0
>Device Serial Number	0018,1000	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Institution Name	0008,0080	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	109102
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	DCM
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment

Table 36: Extended DICOM and private attributes for Secondary Capture Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		ANAP	AUTO	-
Slice Thickness	0018,0050	DS		ANAP	AUTO	-
Contrast/Bolus Route	0018,1040	LO		ANAP	AUTO	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	AUTO	-
Contrast Flow Rate	0018,1046	DS		ANAP	AUTO	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	AUTO	-
Units	0054,1001	CS		ANAP	AUTO	-
Image Position (Patient)	0020,0032	DS		ANAP	AUTO	-
Image Orientation (Patient)	0020,0037	DS		ANAP	AUTO	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-

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Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB /O W		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-

2.1.2.3. Encapsulated PDF Storage

Table 37: IOD of Created Encapsulated PDF Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Series	Encapsulated Document Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Encapsulated Document	Encapsulated Document Module	ALWAYS
Encapsulated Document	SOP Common Module	ALWAYS

Table 38: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY, USER	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY, USER	-
Patient's Sex	0010,0040	CS		VNAP	COPY, USER	-
Other Patient IDs	0010,1000	LO		ANAP	COPY, USER	-

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Other Patient Names	0010,1001	PN		ANAP	COPY, USER	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY, USER	-

Table 39: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY, USER	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY, USER	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY, USER	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO	-

Table 40: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 41: Encapsulated Document Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-
Series Description	0008,103E	LO	Reports	ANAP	AUTO	Reports
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-

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Performed Procedure Step Description	0040,0254	LO		ANAP	AUTO	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	AUTO	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

Table 42: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips Medical Systems	VNAP	COPY	Philips Medical Systems
Institution Name	0008,0080	LO		ANAP	COPY, USER	-
Institution Address	0008,0081	ST		ANAP	COPY, USER	-
Station Name	0008,1010	SH		ANAP	COPY	-
Institutional Department Name	0008,1040	LO		ANAP	COPY	-
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	8.0	ANAP	COPY	8.0
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US /SS		ANAP	COPY	-

Table 43: SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ANAP	AUTO	-
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	-
Secondary Capture Device Manufacturer	0018,1016	LO	Philips Medical Systems	ANAP	AUTO	Philips Medical Systems
Secondary Capture Device Manufacturer's Model Name	0018,1018	LO	IntelliSpace Portal	ANAP	AUTO	IntelliSpace Portal
Secondary Capture Device Software Version(s)	0018,1019	LO		ANAP	AUTO	-

Table 44: Encapsulated Document Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		VNAP	AUTO	-
Acquisition Datetime	0008,002A	DT		VNAP	AUTO	-
Content Time	0008,0033	TM		VNAP	AUTO	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Burned In Annotation	0028,0301	CS	YES	ALWAYS	AUTO	-
Concept Name Code Sequence	0040,A043	SQ		VNAP	AUTO	-
Document Title	0042,0010	ST		VNAP	AUTO	-
Encapsulated Document	0042,0011	OB		ALWAYS	AUTO	-
MIME Type of Encapsulated Document	0042,0012	LO	application/pdf	ALWAYS	AUTO	-

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Source Instance Sequence	0042,0013	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-

Table 45: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.104.1	ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO	Philips Medical Systems	ALWAYS	FIXED	Philips Medical Systems
>Institution Address	0008,0081	ST	Philips Portal	ANAP	FIXED	Philips Portal
>Station Name	0008,1010	SH	Philips Portal	ANAP	CONFIG	Philips Portal
>Institutional Department Name	0008,1040	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Software Version(s)	0018,1020	LO	8.0	ANAP	FIXED	8.0
>Device Serial Number	0018,1000	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Institution Name	0008,0080	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	109102
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	DCM
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment
Instance Number	0020,0013	IS		ANAP	Copy	

2.1.2.4. MR Image Storage SOP Class

Table 46: IOD of Created MR Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	MR Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Image	Extended Dicom and Private attributes	CONDITIONAL - IF PRESENT IN THE SOURCE DATA

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Table 47: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Patient's Name	0010,0010	PN		ANAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY, USER	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY, USER	-
Patient's Sex	0010,0040	CS		VNAP	COPY, USER	-
Other Patient IDs	0010,1000	LO		ANAP	COPY, USER	-
Other Patient Names	0010,1001	PN		ANAP	COPY, USER	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY, USER	-

Table 48: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY, USER	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY, USER	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY, USER	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO	-

Table 49: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY, USER	-
Patient's Size	0010,1020	DS		ANAP	COPY, USER	-
Patient's Weight	0010,1030	DS		ANAP	COPY, USER	-
Occupation	0010,2180	SH		ANAP	COPY	-

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Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 50: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY, USER	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US /SS		ANAP	COPY	-
Largest Pixel Value in Series	0028,0109	US /SS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Context Group Extension Flag	0008,010B	CS		ALWAYS	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 51: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	COPY	-
Position Reference Indicator	0020,1040	LO		VNAP	COPY	-

Table 52: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips Medical Systems	VNAP	COPY	Philips Medical Systems
Institution Name	0008,0080	LO		ANAP	COPY, USER	-

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Institution Address	0008,0081	ST		ANAP	COPY, USER	-
Station Name	0008,1010	SH		ANAP	COPY	-
Institutional Department Name	0008,1040	LO		ANAP	COPY	-
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO		ANAP	COPY	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US /SS		ANAP	COPY	-

Table 53: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Image Type	0008,0008	CS		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO, COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ANAP	COPY	-
>Photometric Interpretation	0028,0004	CS		ANAP	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ANAP	COPY	-
>Columns	0028,0011	US		ANAP	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ANAP	COPY	-
>Bits Stored	0028,0101	US		ANAP	COPY	-
>High Bit	0028,0102	US		ANAP	COPY	-
>Pixel Representation	0028,0103	US		ANAP	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-

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>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 54: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	COPY	-
Image Position (Patient)	0020,0032	DS		ALWAYS	COPY	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	COPY	-
Slice Location	0020,1041	DS		ANAP	COPY	-
Pixel Spacing	0028,0030	DS		ALWAYS	COPY	-

Table 55: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-

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Table 56: MR Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	-
Scanning Sequence	0018,0020	CS		ALWAYS	COPY	-
Sequence Variant	0018,0021	CS		ALWAYS	COPY	-
Scan Options	0018,0022	CS		VNAP	COPY	-
MR Acquisition Type	0018,0023	CS		VNAP	COPY	-
Sequence Name	0018,0024	SH		ANAP	COPY	-
Repetition Time	0018,0080	DS		ANAP	COPY	-
Angio Flag	0018,0025	CS		ANAP	COPY	-
Repetition Time	0018,0080	DS		ANAP	COPY	-
Echo Time	0018,0081	DS		VNAP	COPY	-
Inversion Time	0018,0082	DS		ANAP	COPY	-
Number of Averages	0018,0083	DS		ANAP	COPY	-
Imaging Frequency	0018,0084	DS		ANAP	COPY	-
Imaged Nucleus	0018,0085	SH		ANAP	COPY	-
Echo Number(s)	0018,0086	IS		ANAP	COPY	-
Magnetic Field Strength	0018,0087	DS		ANAP	COPY	-
Spacing Between Slices	0018,0088	DS		ANAP	COPY	-
Number of Phase Encoding Steps	0018,0089	IS		ANAP	COPY	-
Echo Train Length	0018,0091	IS		VNAP	COPY	-
Percent Sampling	0018,0093	DS		ANAP	COPY	-
Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
Pixel Bandwidth	0018,0095	DS		ANAP	COPY	-
Trigger Time	0018,1060	DS		ANAP	COPY	-
Nominal Interval	0018,1062	IS		ANAP	COPY	-
Beat Rejection Flag	0018,1080	CS		ANAP	COPY	-
Low R-R Value	0018,1081	IS		ANAP	COPY	-
High R-R Value	0018,1082	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Cardiac Number of Images	0018,1090	IS		ANAP	COPY	-
Trigger Window	0018,1094	IS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Receive Coil Name	0018,1250	SH		ANAP	COPY	-
Transmit Coil Name	0018,1251	SH		ANAP	COPY	-
Acquisition Matrix	0018,1310	US		ANAP	COPY	-
In-plane Phase Encoding Direction	0018,1312	CS		ANAP	COPY	-
Flip Angle	0018,1314	DS		ANAP	COPY	-
SAR	0018,1316	DS		ANAP	COPY	-
dB/dt	0018,1318	DS		ANAP	COPY	-
Temporal Position Identifier	0020,0100	IS		ANAP	COPY	-
Number of Temporal Positions	0020,0105	IS		ANAP	COPY	-
Temporal Resolution	0020,0110	DS		ANAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-

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Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-

Table 57: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	O W/ OB		ALWAYS	AUTO	-

Table 58: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-

Table 59: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.4	ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO	Philips Medical Systems	ALWAYS	FIXED	Philips Medical Systems
>Institution Address	0008,0081	ST	Philips Portal	ANAP	FIXED	Philips Portal
>Station Name	0008,1010	SH	Philips Portal	ANAP	CONFIG	Philips Portal
>Institutional Department Name	0008,1040	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Software Version(s)	0018,1020	LO	8.0	ANAP	FIXED	8.0
>Device Serial Number	0018,1000	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Institution Name	0008,0080	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-

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>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	109102
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	DCM
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment
Instance Number	0020,0013	IS		ANAP	Copy	

Table 60: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		ANAP	COPY	-
Contrast/Bolus Agent Sequence	0018,0012	SQ		ANAP	COPY	-
Contrast/Bolus Administration Route Sequence	0018,0014	SQ		ANAP	COPY	-
>Additional Drug Sequence	0018,002A	SQ		ANAP	COPY	-
Contrast/Bolus Route	0018,1040	LO		ANAP	COPY	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	COPY	-
Contrast/Bolus Start Time	0018,1042	TM		ANAP	COPY	-
Contrast/Bolus Stop Time	0018,1043	TM		ANAP	COPY	-
Contrast/Bolus Total Dose	0018,1044	DS		ANAP	COPY	-
Contrast Flow Rate	0018,1046	DS		ANAP	COPY	-
Contrast Flow Duration	0018,1047	DS		ANAP	COPY	-
Contrast/Bolus Ingredient	0018,1048	CS		ANAP	COPY	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	COPY	-

Table 61: Extended DICOM and private attributes for MR Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ANAP	COPY	-
Rescale Slope	0028,1053	DS		ANAP	COPY	-
Rescale Type	0028,1054	LO		ANAP	COPY	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/ OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-

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2.1.2.5. Key Object Selection Document Storage SOP Class

Table 62: IOD of Created Key Object Selection Document Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA
Series	Key Object Document Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Document	Key Object Document Module	ALWAYS
	SR Document Content Module	ALWAYS
Document	SOP Common Module	ALWAYS

Table 63: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY, USER	-
Patient's Sex	0010,0040	CS		VNAP	COPY, USER	-

Table 64: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	
Study ID	0020,0010	SH		VNAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	

Table 65: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-

Table 66: Key Object Document Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-

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Table 67: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips Medical Systems	VNAP	COPY	Philips Medical Systems
Institution Address	0008,0081	ST		ANAP	COPY, USER	-
Station Name	0008,1010	SH		ANAP	COPY	-
Software Version(s)	0018,1020	LO		ANAP	COPY	-
Institution Name	0008,0080	LO		ANAP	COPY, USER	-
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-

Table 68: Key Object Document Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Time	0008,0033	TM		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Instance Number	0020,0013	IS		ANAP	COPY	-
Current Requested Procedure Evidence Sequence	0040,A375	SQ		ALWAYS	AUTO, COPY	-
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
>Referenced Series Sequence	0008,1115	SQ		ALWAYS	AUTO, COPY	-
>>Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	-
>>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	AUTO, COPY	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO, COPY	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO, COPY	-

Table 69: SR Document Content Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced SOP Sequence	0008,1199	SQ		ALWAYS	COPY	-
Referenced SOP Sequence	0008,1199	SQ		ALWAYS	COPY	-
Referenced SOP Sequence	0008,1199	SQ		ALWAYS	COPY	-
Observation DateTime	0040,A032	DT		ANAP	COPY	-
Value Type	0040,A040	CS		ALWAYS	COPY	-
Concept Name Code Sequence	0040,A043	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Continuity of Content	0040,A050	CS		ALWAYS	COPY	-
Temporal Range Type	0040,A130	CS		ALWAYS	COPY	-
Concept Code Sequence	0040,A168	SQ		ALWAYS	COPY	-
Measured Value Sequence	0040,A300	SQ		VNAP	COPY	-
Content Template Sequence	0040,A504	SQ		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ALWAYS	COPY	-
>Template Identifier	0040,DB00	CS		ALWAYS	COPY	-
Content Sequence	0040,A730	SQ		ANAP	COPY	-
>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	COPY	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-

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>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
>Relationship Type	0040,A010	CS		ALWAYS	COPY	-
>Value Type	0040,A040	CS		ALWAYS	COPY	-
>Concept Name Code Sequence	0040,A043	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Continuity of Content	0040,A050	CS		ALWAYS	COPY	-
>Temporal Range Type	0040,A130	CS		ALWAYS	COPY	-
>Concept Code Sequence	0040,A168	SQ		ALWAYS	COPY	-
>Measured Value Sequence	0040,A300	SQ		VNAP	COPY	-
>Graphic Data	0070,0022	FL		ALWAYS	COPY	-
>Graphic Type	0070,0023	CS		ALWAYS	COPY	-
>Referenced Frame of Reference UID	3006,0024	UI		ALWAYS	COPY	-

Table 70: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS		
Instance Number	0020,0013	IS		ANAP		
Specific Character Set	0008,0005	CS	ISO_IR 100	ANAP	AUTO	ISO_IR 100
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.88.59	ALWAYS		1.2.840.10008.5.1.4.1.1.88.59
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO	Philips Medical Systems	ALWAYS	FIXED	Philips Medical Systems
>Institution Address	0008,0081	ST	Philips Portal	ANAP	FIXED	Philips Portal
>Station Name	0008,1010	SH	Philips Portal	ANAP	CONFIG	Philips Portal
>Institutional Department Name	0008,1040	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Software Version(s)	0018,1020	LO	8.0	ANAP	FIXED	8.0
>Device Serial Number	0018,1000	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Institution Name	0008,0080	LO	Philips Portal	ANAP	FIXED	Philips Portal
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	109102
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	DCM
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment

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